

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

Listing of Claims

1. (Currently amended): A worked molybdenum-alloy material having high strength and high toughness, comprising:

molybdenum matrix containing a nitride forming element dissolved therein forming a solid solution;

at least one of carbide particles, oxide particles, and boride particles precipitated and dispersed in said molybdenum matrix; and

fine nitride particles dispersed in said molybdenum matrix,

wherein said nitride particles are dispersed by internal internally nitriding of an untreated
a worked molybdenum-alloy material in which a nitride-forming-metal element is dissolved to
form forming a solid solution in a molybdenum matrix and at least one of carbide particles, oxide
particles, and boride particles is precipitated and dispersed, and

wherein a worked crystal-grain structure or a recovered crystal-grain structure is
maintained in both surface region and inner region of the worked molybdenum-alloy material,
and the worked molybdenum-alloy material has a recrystallization temperature of 1800 °C or
higher.

2-4. (Cancelled).

5. (Currently amended): A method for manufacturing a ~~worked~~ molybdenum-alloy material having high strength and high toughness ~~according to any one of Claims 1 to 4,~~ comprising the ~~[[step]]~~ steps of: ~~subjecting an untreated worked alloy~~
preparing a worked molybdenum-alloy material, which has a matrix composed of molybdenum, in which comprising a molybdenum matrix, at least one of carbide particles, oxide particles, and boride particles ~~[[is]]~~ precipitated and dispersed in said molybdenum matrix, and ~~in which~~ at least one of titanium, zirconium, hafnium, vanadium, niobium, and tantalum ~~[[is]]~~
dissolved to form in said molybdenum matrix forming a solid solution[[,]]; and
subjecting said worked molybdenum-alloy material to a multi-step internal nitriding treatment including a stepwise increase of treatment temperature, the treatment temperature of each step being a temperature which does not cause recrystallization of said worked molybdenum-alloy material,
wherein a worked crystal-grain structure or a recovered crystal-grain structure is maintained in both surface region and inner region of the worked molybdenum-alloy material, and the worked molybdenum-alloy material has a recrystallization temperature of 1800 °C or higher.